BEHAVIOR ANALYSIS AND SIGNAL-DETECTION THEORY

In a book review published 30 years ago in *JEAB*, Nevin (1969) drew attention to similarities between fundamental concepts in signal-detection theory and in behavior analysis. He focused particularly on two higher order measures of performance developed within the framework of signal-detection theory—one expressing the independent effects of stimulus differences and the other expressing the independent effects of motivational or incentive variables. He raised the possibility that analogous higher order measures might be formulated and applied to data from conventional operant conditioning procedures, yielding measures that might indicate the independent effects of discriminative stimulus properties and reinforcement variables.

Since that review, a solid body of empirical studies and theoretical analysis has emerged derived from signal-detection-like conceptions of contingencies. Two such contributions deserve particular note. One is a paper by White and Wixted (1999) that appeared in the January issue of this journal; the other is the paper by Davison and Nevin (1999) in the present (May) issue. Both papers attempt integration of a substantial and diverse set of data, and they report similar predictions for some important and revealing cases. Yet, interestingly, the accounts are derived from quite different conceptions of signal detection. Their appearing so close together in time—indeed, they were under review during overlapping periods—is an encouraging sign of scientific progress and provides an instructive opportunity to compare the evolution of related theoretical approaches.

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